

A Study of the Literature of Lab-Based Instruction in Biology

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Summary

We analyzed the practitioner literature on lab-based instruction in biology in *The American Biology Teacher* between 2007 and 2012. We investigated what laboratory learning looks like in biology classrooms, what topics are addressed, what instructional methods and activities are described, and what is being learned about student outcomes. The practitioner literature reveals a focus on novel and innovative labs, and gaps in some biology topics. There is little description of student learning, but motivation and engagement are a primary concern of authors. There is little evidence of students addressing the nature of science in laboratories, and too few opportunities for authentic exploration of phenomena. We suggest that biology instruction can be strengthened by more rigorous practitioner research through increased professional collaboration between teachers and education researchers, increased focus on the synergy between content and teaching practice, and more rigor in reporting student outcomes.

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